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STATE OF MAINE
DEPARTMENT OF ENVIRONMENTAL PROTECTION
STATE HOUSE STATION 17 AUGUSTA, MAINE 04333

DEPARTMENT ORDER

IN THE MATTER OF

GREAT NORTHERN PAPER, INC.	)	SOLID WASTE ORDER
MILLINOCKET AND EAST MILLINOCKET	)	
PENOBSCOT COUNTY, MAINE	)	
SLUDGE UTILIZATION, PROGRAM APPROVAL	)	
#S-021545-SB-D-A (APPROVAL WITH CONDITIONS)	)	LICENSE AMENDMENT

Pursuant to the provisions of 38 M.R.S.A. Section 1301 et. seq. and 06-096 CMR Chapter 419, Agronomic Utilization of Residuals (effective December 19, 1999), and the Department's other Solid Waste Management Regulations (effective September 6, 1999), the Department of Environmental Protection (the Department) has considered the application of GREAT NORTHERN PAPER, INC. (the applicant) with its supportive data, and other related materials on file and FINDS THE FOLLOWING FACTS:

1. APPLICATION SUMMARY

A. Application: Great Northern Paper, Inc. (GNP) has applied for an amendment to Department License #S-021545-SB-A-N, dated August 22, 1995, which approved the applicant's Program Approval license for agricultural and silvicultural utilization of paperfiber sludge. These waste wood fiber residuals consist of primary papermill sludge from GNP's Millinocket mill in Millinocket, Maine, and recycled short-paper fiber sludge from GNP's East Millinocket mill Recycle Fiber Plant (RFP) in East Millinocket, Maine.

B. History: GNP owns and operates licensed paper mills located in Millinocket and East Millinocket. On September 4, 1992, the Department issued an experimental license to allow GNP to complete trial land applications of paperfiber sludge for the purpose of determining agronomic benefit and establishing appropriate loading rates for the sludge. On June 29, 1995, the Department issued Order #S-021424-SN-A-N, which approved GNP's proposal to utilize its sludge on 40 acres located on Gordon Hill in Winn, Maine, owned and managed by Kevin Maxwell. On August 22, 1995, the Department issued Order #S-021545-SB-A-N, which initially approved the applicant's Program Approval license for sludge utilization. The program license also allowed GNP sludge to be used as a carbonaceous bulking agent at compost facilities. On April 21, 1996, the Department issued Order #S-021545-SB-B-M, which reduced the required frequency for analytical testing of GNP sludge, and allowed GNP sludge to be field-stacked for up to 180 consecutive days at utilization sites. On December 16, 1996, the Department issued Order #S-021545-SB-C-M, which allowed GNP sludge to be field-stacked for up to 365 consecutive days at utilization sites. Department records indicate

that GNP has not distributed sludge for agricultural or silvicultural utilization, or for composting, since 1997.

C. Summary of Proposal: The applicant proposes to resume distribution of GNP sludge for direct landspreading on suitable agricultural and silvicultural sites, and as a carbonaceous amendment material at approved compost facilities. The applicant proposes to include program revisions to reflect new requirements and standards contained in Chapter 419, *Agronomic Utilization of Residuals*, as opposed to the former applicable regulations Chapter 567, *Rules for Land Application of Sludge and Residuals*. Primarily, the program revisions include the submittal of a Sampling and Analytical Workplan, which addresses the procedures for monitoring sludge quality, and a request to allow land application of sludge without Department-issued site-specific licenses.

2. FACILITY / RESIDUAL CHARACTERIZATION

A. Sludge Generated at the Millinocket Mill: GNP's Millinocket papermill annually produces approximately 288,000 tons of specialty papers, directory, and newsprint. Wood pulp is produced on site from both mechanical and chemical processes. Mechanical pulp is produced from wood chips that are washed and passed between stationary and revolving plates in a disc refiner. Additional mechanical pulp is produced from the stone groundwood method at the East Millinocket mill and shipped by rail to the Millinocket mill, along with recycled pulp produced from the East Millinocket Recycle Fiber Plant (RFP). Mechanical pulp constitutes approximately 55% of the fiber utilized for papermaking at the facility, while recycled pulp constitutes approximately 12% of the fiber utilized.

The majority of incoming wood chips are chemically treated with magnesium bisulfite to produce the chemical pulp used in the papermaking process. Sulfite pulp constitutes approximately 23% of the fiber utilized for papermaking at the Millinocket facility. GNP also purchases chemical pulp produced from the Kraft bleaching process from external sources. Imported Kraft pulp constitutes approximately 10% of the fiber utilized at the Millinocket mill.

Wastewater from pulping and papermaking processes at the Millinocket mill are subjected to secondary treatment by retention in a primary clarifier, followed by one day retention time in a settling lagoon and five days retention time in an aerated lagoon. Only the primary sludge from the Millinocket mill has been proposed and approved for utilization. Approximately 162,000 cubic yards of primary sludge at 28% solids were removed from the primary clarifier during calendar year 1994; however, since the stone groundwood process at the Millinocket mill was discontinued in May, 1994, annual sludge production is estimated at approximately 100,000 cubic yards.

B. SPF Sludge Generated at the East Millinocket RFP Mill: Although GNP's East Millinocket mill includes the stone groundwood mechanical pulp process, along with papermaking and water treatment processes similar to those at the Millinocket mill, only the primary short-paper fiber sludge (SPF) from the Recycled Fiber Plant (RFP) are proposed for agricultural utilization in combination with Millinocket mill sludge. Old newspapers and telephone directories constitute approximately 75% of the incoming paper, and old magazines constitute the other 25%. In 1994, approximately 149,000 tons of recycled pulp from the RFP were used in the papermaking process at the East Millinocket mill, and approximately 30,000 tons were shipped to the Millinocket mill. The RFP utilizes both acid and alkaline digestion along with filtration and other physical processes to remove inks, clays, and other contaminants from the processed recycled pulp. Approximately 114,000 cubic yards of SPF sludge at 40% solids is generated annually from approximately 182,500 tons of incoming paper (500 tons average per day) at GNP's RFP.

3. AGRONOMIC BENEFIT OF PAPERMILL SLUDGE

A. Land Application: The applicant proposes to resume distribution of the paperfiber sludge from GNP's Millinocket mill, and SPF from GNP's RFP, for direct land-application on suitable agricultural and silvicultural sites. Research in Maine has shown that landspreading papermill sludge followed by incorporation has improved soil fertility by adding organic matter and thereby increasing the nutrient and water holding capacity of agricultural soils. Research on silvicultural sites has further shown that utilization of paperfiber sludge has resulted in increased tree height, stem diameter, and nitrogen concentration in tree foliage. In addition, papermill sludge from other mills has been successfully utilized in Maine as a major component of manufactured topsoil that is used as the vegetative layer in landfill closures. More recently, similar manufactured topsoils have been used for reclaiming gravel pits. Manufactured topsoils containing papermill sludge support healthier vegetation, and are more resistant to erosion, than native soils.

The applicant has performed separate analyses of its Millinocket mill sludge, and SPF from its RFP, for baseline nutrients and nitrogen, in accordance with Chapter 405, sections 6.D(2)(a) and (b); however, the applicant has not submitted the results of analysis of its sludge for Calcium Carbonate Equivalents. Results of chemical analyses indicate that GNP Millinocket mill sludge contains approximately 0.166% nitrogen and approximately 0.071% phosphorus, and the carbon to nitrogen ratio (C:N) of this sludge is approximately 226.5:1. Further, results of chemical analyses indicate that RFP SPF contains approximately 0.32% nitrogen and approximately 0.123% phosphorus, and the C:N of the SPF is

approximately 102.7:1. Because of the high carbon content of these residuals, the Department finds that the applicant should notify end-users that an additional application of nitrogen fertilizer, at a rate which provides sufficient nitrogen for the crop being grown, should accompany or follow agricultural applications of GNP sludge and/or SPF.

The Department finds that the applicant should submit the results of analysis of composite samples of each of its Millinocket mill sludge and RFP SPF for Calcium Carbonate Equivalents (CCE), in accordance with Chapter 405, section 6.D(2)(c), prior to resuming distribution of these residuals for utilization or composting. Further, the applicant should include testing for CCE with ongoing analyses of GNP sludge samples completed pursuant to this program license.

B. Loading Rates: For replacing organic matter, the applicant proposes that sludge will be incorporated at a rate not to exceed 20 dry tons per acre. The Department finds that this proposed application rate is not appropriate, given that applications of sludge at this proposed maximum annual rate could potentially result in phosphorus being applied in excess of crop uptake rates. The Department finds that, to prevent phosphorus applications in excess of crop uptake rates, the applicant should limit applications of its sludge to maximum annual rates not to exceed 16 dry tons per acre. The Department further finds that applications of GNP sludge should not exceed the recommended liming rate of two tons of Calcium Carbonate Equivalents (CCE) per acre if topdressed, and three tons of CCE per acre if incorporated.

C. Compost Amendment: The applicant also proposes to distribute Millinocket mill sludge and/or RFP SPF for use as an amendment material at approved compost sites. These materials are carbonaceous residuals which can be used as bulking agents and blended with nitrogenous wastes in compost mixtures. The applicant has performed trials with these residuals and found them suitable for this use as proposed.

The Department finds that this is acceptable, for any Millinocket mill sludge or RFP SPF which meets the screening standards contained in Chapter 419, Table 419.5 Column A. The Department also finds that this is acceptable for compost facilities that have received specific Department approval to accept the waste.

The Department finds that the applicant must provide records of the total volumes of Millinocket mill sludge and RFP SPF that are distributed to individual compost facilities.

4. RESIDUAL SUITABILITY

A. Inorganic Compounds: The applicant has performed separate analyses of its Millinocket mill sludge and RFP SPF for certain inorganic compounds; however, the applicant has not submitted analysis of Millinocket mill sludge and RFP SPF for all required inorganic compounds consistent with the waste characterization required by Chapter 405, section 6.D(2)(d). Specifically, GNP has not submitted analysis results of its Millinocket mill sludge for Aluminum, Boron, Cobalt or Manganese, nor has the applicant submitted analysis results of RFP SPF for Aluminum, Antimony, Boron, Beryllium, Cobalt, Manganese, Silver, Thallium or Cyanide. Due to incomplete inorganic compounds analyses submitted to date, and because GNP has not submitted a certified analysis report for its sludge since 1995, the Department finds that the applicant should submit the results of a complete analysis of one composite sample of each of its Millinocket mill sludge and RFP SPF, for total inorganic compounds, in accordance with Chapter 405, section 6.D(2)(d), prior to resuming distribution of these residuals for utilization or composting.

Results of chemical analyses indicate that all other tested inorganic compounds in GNP sludge and SPF were within the applicable screening limits in Chapter 419, Table 419.5, and Chapter 418, Appendix A, except for arsenic and nickel, which occasionally exceeded applicable screening limits.

(1) Arsenic Risk: Arsenic (As) is a toxic heavy metal that can, in sufficient quantities, produce both carcinogenic and non-carcinogenic effects in humans that have ingested contaminated soil or groundwater. The mobility of Arsenic from the sludge/soil mixture into groundwater and then downgradient will vary depending on complex site-specific influences. The mean concentration of As in soil in the Eastern United States is around 4.8 parts per million (ppm), and ranges from around 0.1 ppm to around 73 ppm. The maximum recommended risk-based concentration in site soil is 5.4 ppm, and the maximum recommended annual loading rate is 0.54 kilograms per hectare (kg/ha). Analysis results for a Millinocket mill sludge sample obtained on March 13, 1995 indicated an As concentration of 6.9 parts per million (ppm), compared with the 5 ppm screening standard in Chapter 419, Table 419.5 for this residual. In addition, analysis results for RFP SPF samples obtained March 6 and March 8, 1995, indicated As concentrations of 6.7 ppm and 6.1 ppm, respectively.

To increase soil organic matter by an optimal 6%, 20 dry tons of residual per acre per year would need to be applied to a site three times. Arsenic loading rate calculations performed in accordance with Chapter 419, Appendix A., section 2.C, using the maximum As concentration reported for GNP sludge, indicate that at this maximum application rate soil

concentrations of Arsenic would increase by approximately 0.2 ppm, compared to Cumulative Loading Rates of 4.46 ppm and 4.91 ppm of As, which are allowed by Chapter 419, Table 419.3 Column D for land-application of sewage sludge, and by Chapter 419, Table 419.4 Column E for land-application of liming agents, respectively.

Based on the potential maximum Arsenic loading rate at utilization sites, the Department finds that As loading from utilization of GNP sludge and/or SPF will not, under unrestricted site uses, result in the aggregate risk to a highly exposed individual that exceeds an Incremental Lifetime Cancer Risk of $5X10^{-6}$, or that exceeds a Hazard Index of ½.

(2) Nickel Risk: Nickel (Ni) is a toxic heavy metal which can produce non-carcinogenic effects in humans that have ingested contaminated soil or groundwater; however, the mobility of Nickel from a sludge/soil mixture into groundwater is considerably limited compared to the mobility of similar concentrations of Arsenic. The mean concentration of Ni in soil in Maine is around 33.7 parts per million (ppm), and ranges from around 14 ppm to around 72 ppm. The maximum recommended risk-based concentration in site soil is 130 ppm, and the maximum recommended annual loading rate is 13 kilograms per hectare (kg/ha). Analysis results for a Millinocket mill sludge sample obtained on March 13, 1995, indicated a Ni concentration of 590 ppm, compared with the 130 ppm screening standard in Chapter 419, Table 419.5 for this residual; however, the vast majority of historical analytical results of Millinocket mill sludge samples indicate Ni concentrations well below this screening standard.

As described by Program license #S-021545-SB-A-N, GNP maintenance records and sludge analysis results from the Millinocket mill indicated that high nickel levels were produced from periodic wash down operations of process boilers' exhaust ducts. Apparently, heavy oil, which is burned in the plant's boilers, contributes Nickel to the deposits in the boiler air preheaters and ducts. Nickel is then concentrated in sludge during subsequent wash down, which occurs at least once annually for each boiler. The applicant proposes to monitor scheduled wash down cycles for each process boiler on a daily basis, and will isolate any Millinocket mill sludge produced during those periods and analyze representative samples for Ni concentration. Depending on analytical results, sludge produced during these wash down events will be either landfilled or blended with low Ni sludge. All sludge proposed for land application will be within the screening standard of 130 ppm for Ni, before being transported to any utilization or compost site.

B. Dioxin: Analyses of GNP Millinocket mill sludge and RFP SPF for polychlorinated dibenzo-p-dioxins (PCDDs) and polychlorinated dibenzofurans (PCDFs) indicate that the total toxicity equivalents of these compounds are below 27 parts per trillion (ppt). Therefore the applicant is not subject to the additional standards in Chapter 419, section 4.K.

C. Organic Compounds, PCBs and Pesticides: The applicant has performed separate, initial analyses of its Millinocket mill sludge and its RFP SPF for target volatile and semi-volatile organic compounds, pesticides, and PCBs, in accordance with Chapter 405, sections 6.D(2)(i), (j), (k), and (l). Results of these chemical analyses indicate all tested parameters were within the applicable limits in Chapter 418, Appendix A.

D. Phosphorus: Nutrient calculations performed by the Department indicate that applications of sludge at maximum annual rates of 20 dry tons per acre could potentially result in phosphorus being applied in excess of crop uptake rates. Therefore, the Department finds that annual applications of GNP sludge and/or SPF should be limited to maximum rates of 16 dry tons per acre, to ensure that phosphorus loading will remain less than 40 lbs. per acre, for each annual application of GNP sludge.

5. SAMPLING AND ANALYTICAL WORKPLAN

The applicant has submitted a sampling and analytical workplan to characterize the sludge and SPF which is currently being generated by GNP's wastewater treatment operations at the Millinocket mill and the RFP. The proposed sampling and analytical plan substantially satisfies the requirements for waste characterization described in Chapter 405, section 6.B.2.

Department Order #S-021545-SB-A-N initially required that the applicant analyze its sludge quarterly, or at a frequency of one analysis per 4,000 cubic yards of residual utilized, whichever was more frequent. Considering the sludge volumes generated at GNP's West Operations and RFP mills, the license potentially required the applicant to submit up to 25 analysis results annually for each residual. Due to historic analysis results, and the demonstrated consistency of its sludge and SPF, the applicant subsequently requested Department approval for reducing the sludge testing frequency. In response to GNP's request, on April 21, 1996, the Department issued Order #S-021545-SB-B-M, which required that GNP test its sludge and SPF each on a quarterly basis. The Department finds that this reduced testing frequency is appropriate for utilization of GNP's sludge and its SPF.

6. RISK MANAGEMENT

Nutrient calculations performed by the Department indicate that applications of sludge at maximum annual rates not to exceed 16 dry tons per acre would not result in phosphorus being applied in excess of the crop uptake rates. The results of analysis of the applicant's sludge also indicates that land-applying sludge at this maximum rate will not result in over-application of any heavy metals or other contaminants at utilization sites.

Because the C:N of these residuals exceeds 25:1, the applicant's Millinocket mill sludge and RFP SPF are not considered nitrogen-containing residuals, as outlined by Chapter 419, sections 3.A or 3.B.(1)(g). Therefore, the applicant is not subject to the siting standards in section 3 or any of the additional operational standards of Chapter 419, sections 4.F through N, provided the sludge application, in combination with other nutrient sources used of the fields, is limited to the agronomic rate for nitrogen for the crop being grown, and a maximum annual application rate of 16 dry tons per acre of sludge.

The applicant proposes to utilize the sludge on actively managed agricultural and silvicultural sites. The Department finds that limiting sludge spreading to established agricultural and silvicultural sites will meet the intent of the setbacks required under Chapter 419, section 4.G and Chapter 400, section 4.E.(1)(b). However, the applicant has not submitted a copy of a Sludge Utilization Agreement which would be signed by GNP and the end-users of these residuals. Therefore, the Department finds that the applicant should submit a draft Sludge Utilization Agreement, for review and approval by Department staff, and that representatives of GNP should sign the approved agreement form, along with the landowner receiving sludge and the site operator, for each site proposed for sludge utilization, prior to resuming distribution of sludge or SPF for utilization without site-specific permitting. The utilization agreement must describe the responsibilities and liabilities of GNP and site operators, and provide Title, Right and Interest for use of GNP sludge on utilization sites. Further, the agreement must specify the Best Management Practices (BMPs) to be followed by the site operator, provide a list of setbacks to be observed when spreading and storing sludge, and include a notification to landowners that an additional application of nitrogen fertilizer, at a rate which provides sufficient nitrogen for the crop being grown, should accompany or follow agricultural applications of GNP sludge and/or SPF. The applicant should retain copies of signed Sludge Utilization Agreements for a period of 5 (five) years.

GNP sludge which is not utilized for land-application or composting will continue to be disposed of in the applicant's Dolby Landfill located in East Millinocket.

7. SITE LICENSING PROCESS

The applicant proposes to not license individual utilization sites, or field stockpile sites. Based on the characteristics of the residual, the applicant is not subject to the siting standards in Chapter 419, section 3. However, the applicant has not provided the

information that will be provided to end users of the residual. Provided the applicant submits, for Department review and approval, a draft utilization agreement that contains the information described in #6 above. The Department finds that not licensing individual utilization sites or field stockpile sites is appropriate, provided the metals in the residual, except for arsenic, are less than the screening standards in table 419.5, the applicant does not distribute more sludge to end users in a given year than can be utilized at their site, and sludge application is limited to an annual application rate of 16 dry tons per acre.

8. FINANCIAL AND TECHNICAL ABILITY

The applicant estimates that the cost of operating the land-application program to be approximately $700,000.00 for utilization of the full 200,000 cubic yards of material generated annually. As part of application #S-021545-SB-A-N, the applicant submitted the 1994 annual report for Bowater Inc. (GNP's parent company at that time), which indicated that GNP possessed sufficient financial resources to fund the project. In August, 1999, GNP's Millinocket and East Millinocket facilities, including the East Millinocket, RFP, and Millinocket mills, were purchased by Inexcon company of Canada. GNP is currently disposing of all sludge and SPF at its Dolby Landfill.

The sludge utilization program will be managed by GNP. The applicant has operated in substantial compliance with the land application regulations since 1992. The applicant has utilized the technical expertise of the University of Maine Cooperative Extension, the Cooperative Forestry Research Unit, and the Department of Forest Management in developing the land-application proposal. The applicant has worked with Woods End Research, a composting consultant, in development of the composting proposal.

9. ONGOING RESIDUAL ANALYSIS

When distribution of GNP sludge and SPF for utilization or composting resumes, the applicant proposes to sample and analyze composite samples of its ongoing sludge on a quarterly basis for the following: pH, % Dry Solids, Total Potassium, Total Phosphorus, % Carbon, and heavy metals including Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Molybdenum, Nickel, Selenium, and Zinc. Prior to resuming the utilization project, the applicant proposes to analyze its sludge once annually for these same parameters. The Department finds the proposed testing frequencies to be adequate. However, in accordance with Chapter 419, sections 6.D.(2)(c) and (d), the Department requires that GNP sludge be analyzed at least once for the following: Calcium Carbonate Equivalents (CCE), Aluminum, Antimony, Arsenic, Barium, Boron, Beryllium, Cadmium, Calcium, Chromium, Cobalt, Copper, Lead, Manganese, Mercury, Molybdenum, Nickel, Selenium, Silver, Thallium, Vanadium, Zinc, and Cyanide. The Department further finds that GNP should submit the results of analysis of one composite sample each of Millinocket mill sludge and RFP SPF for these parameters, for review by

Department staff, prior to resuming distribution of these residuals for utilization or composting. The applicant should submit all analytical results to the Department within 30 days of receipt by GNP.

10. TRAFFIC

Handling and transport of sludge to utilization sites will replace shipments of sludge that would normally be delivered to GNP's Dolby Landfill. The applicant has stated that use of GNP sludge and/or SPF at any site would increase vehicle traffic by one or fewer vehicle trips per hour during normal business hours. The applicant therefore meets the alternative traffic standard in Chapter 419, sections 4.F and 10.B(8).

11. NUISANCES AND AIR QUALITY

Sludge utilization, or mixing sludge with compost, will not generate noise or dust in excess of that generated during normal operations at any site or facility proposed to use the residual.

GNP sludge and SPF generate minimal objectionable odors and dust during handling. These residuals are unlikely to cause odor or dust nuisances at agricultural, silvicultural and/or compost sites where they will be handled.

12. SCENIC CHARACTER

No new permanent structures are proposed to be constructed for the project. In the case of silvicultural use, the applicant states that accumulation on vegetation will create a temporary unsightly condition which will be alleviated over time by precipitation, wind action and eventual assimilation of the sludge into forest soils.

13. EROSION

Application of the residuals onto cropland and forestland will increase organic matter and water holding capacity of the soils, thus acting to reduce soil erosion at the sites. Other than activities related to normal farming practices, no soil disturbance is proposed with this project.

14. UTILITIES

No new utilities are proposed for the project. No new utilities are needed since the project is consistent with the ongoing activities at agricultural and silvicultural sites.

15. FLOODING

The applicant proposes that its sludge may be land-applied within a 100-year flood plain, in accordance with accepted agricultural practices. The Department finds that sludge should only be delivered to areas within a 100-year floodplain when the groundwater is at least 24 inches below the surface. Sludge delivered to floodplain sites should be incorporated and the resulting sludge-amended soils should be graded, seeded and mulched within 30 days of delivery. Sludge amended areas in floodplains must have an established cover crop by September 15th of the year of delivery. In the floodplain, residuals may only be stored for less than 30 days, only when the groundwater is less than 24 inches to the surface, and only prior to September 15th of each year.

16. REPORTING

The applicant should report analytical results of GNP sludge to the Department within 30 days of receipt. Further, the applicant should submit an annual report of utilization activities that meets the standards in Chapter 419, section 6C to the Department by February 28th of each following year.

17. ALL OTHER

All other Findings of Fact remain as approved in program license #S-021545-SB-A-N, as amended.

BASED on the above Findings of Fact, and subject to the conditions listed below, the Department makes the following conclusions:

1. The proposed project will not pollute any water of the state, contaminate the ambient air, constitute a hazard to health or welfare, or create a nuisance, provided that:

   A. The applicant does not distribute more sludge to end users in a given year than can be utilized agronomically at their sites. Sludge application rates will not exceed the maximum rate of 16 dry tons per acre, or the recommended liming rate of two tons of CCE per acre if topdressed, and three tons of CCE per acre if incorporated, whichever is more restrictive;

   B. The applicant submits the results of analysis of composite samples of each of its Millinocket mill sludge and RFP SPF for Calcium Carbonate Equivalents (CCE), in accordance with Chapter 405, section 6.D(2)(c), prior to resuming distribution of these residuals for utilization or composting;

   C. The applicant isolates sludge generated during periods of boiler wash down, and either landfills the suspect sludge or blends it with low Ni sludge, such that all

sludge distributed for utilization or composting will contain less than 130 ppm of Ni;

D. The applicant ensures that sludge that exceeds the screening standards in Chapter 419, Table 419.5 Column A for heavy metals is not distributed in bulk to compost facilities that have not received Department approval to accept paperfiber sludge;

E. The applicant submits the results of a complete analysis of one composite sample of each of its Millinocket mill sludge and RFP SPF, for total inorganic compounds, in accordance with Chapter 405, section 6.D(2)(d), for review by Department staff, prior to resuming distribution of these residuals for utilization or composting;

F. The applicant analyzes composite samples of Millinocket mill sludge and RFP SPF on a quarterly basis for baseline nutrients, Calcium Carbonate Equivalents, and sewage sludge metals, as defined by Chapter 405, sections 6.D.(2)(a), (c), and (e), and submits the analytical results to the Department within 30 days of receipt. If all GNP sludge generated annually is landfilled, the applicant may submit the results of analysis of Millinocket mill sludge and RFP SPF for these parameters once annually for each residual;

G. The applicant submits a draft Sludge Utilization Agreement, for review and approval by Department staff, prior to resuming distribution of sludge for utilization without site-specific permitting. The utilization agreement must describe the responsibilities and liabilities of GNP and site operators, and provide Title, Right and Interest for use of GNP sludge on utilization sites. Further, the agreement must ensure that the operating standards in Chapter 419, section 4.E will be met at utilization sites, and ensure that storage sites will meet the general siting, design and operational standards in Chapter 419, sections 10.A, 10.B, 12.A and 12.B. The agreement must specify the BMPs to be followed by the site operator, provide a list of setbacks to be observed when spreading and storing sludge, and include a notification to landowners that an additional application of nitrogen fertilizer, at a rate which provides sufficient nitrogen for the crop being grown, should accompany or follow agricultural applications of GNP sludge;

H. The applicant's representative signs and executes an approved Sludge Utilization Agreement, along with the landowner receiving sludge and the site operator, for each site proposed for sludge utilization, and the applicant retains copies of signed Sludge Utilization Agreements for a period of 5 (five) years;

I. The applicant delivers sludge to areas within a 100-year floodplain only after the groundwater is at least 24 inches below the surface. The applicant ensures that sludge delivered to floodplain sites is incorporated and the resulting sludge-

amended soils are graded, seeded and mulched within 30 days of delivery, and the applicant ensures sludge amended areas in floodplains have an established cover crop by September 15th of the year of delivery; the applicant ensures that in the floodplain, residuals are only be stored for less than 30 days, only when the groundwater is at least 24 inches to the surface, and only prior to September 15th of each year; and

J. The applicant submits an annual report of utilization activities that meets the standards in Chapter 419, section 6C to the Department's Bureau of Remediation and Waste Management by February 28th of each following year. The annual report must include the total volumes of Millinocket mill sludge and RFP SPF that are distributed to individual compost facilities;

2. The applicant has the financial and technical ability to develop the project in a manner consistent with State environmental standards;

3. The applicant has made adequate provisions for traffic movement of all types into, out of and within proposed facilities and utilization sites;

4. The proposed project fits harmoniously into the existing natural environment and will not adversely affect existing uses, scenic character, air quality, water quality or other natural resources in the municipalities or in neighboring municipalities;

5. Proposed facilities and utilization sites will be on soils types suitable to the nature of the undertaking and will not cause unreasonable erosion of soil or sediment;

6. Proposed facilities and utilization sites will not pose an unreasonable risk that a discharge to a significant groundwater aquifer will occur;

7. The applicant has made adequate provisions for utilities including water supplies, sewerage facilities, solid waste disposal and roadways required for the project, and the proposed facilities and utilization sites will not have an unreasonable adverse effect on the existing or proposed utilities and roadways in the municipalities or area served by those services;

8. The activity will not unreasonably cause or increase the flooding of the area or adjacent properties nor create an unreasonable flood hazard to any structure; and

9. All other Conclusions remain as approved in program license #S-021545-SB-A-N, as amended.

THEREFORE, the Department APPROVES the above noted application of GREAT NORTHERN PAPER, INC., SUBJECT TO THE ATTACHED CONDITIONS, and all applicable standards and regulations:

1. The Standard Conditions of Approval, a copy attached as Appendix A.

2. The applicant shall not distribute more sludge to end users in a given year than can be utilized agronomically at their sites. Sludge application rates will not exceed the maximum rate of 16 dry tons per acre, or the recommended liming rate of two tons of CCE per acre if topdressed, and three tons of CCE per acre if incorporated, whichever is more restrictive.

3. The applicant shall submit the results of analysis of composite samples of each of its Millinocket mill sludge and RFP SPF for CCE, in accordance with Chapter 405, section 6.D(2)(c), prior to resuming distribution of these residuals for utilization or composting.

4. The applicant shall isolate sludge generated during periods of boiler wash down, and shall either landfill the suspect sludge or blend it with low Ni sludge. The applicant shall ensure that all sludge distributed for utilization or composting will contain less than 130 ppm of Ni.

5. The applicant shall ensure that sludge that exceeds the screening standards in Chapter 419, Table 419.5 Column A for heavy metals is not distributed in bulk to compost facilities that have not received Department approval to accept paperfiber sludge.

6. The applicant shall submit the results of a complete analysis of one composite sample of each of its Millinocket mill sludge and RFP SPF, for total inorganic compounds, in accordance with Chapter 405, section 6.D(2)(d), for review by Department staff, prior to resuming distribution of these residuals for utilization or composting.

7. The applicant shall analyze composite samples of Millinocket mill sludge and RFP SPF on a quarterly basis for baseline nutrients, calcium carbonate equivalents, and sewage sludge metals, as defined by Chapter 405, sections 6.D.(2)(a), (c), and (e), and submit the analytical results to the Department within 30 days of receipt. If all GNP sludge generated annually is landfilled, the applicant shall submit the results of analysis of Millinocket mill sludge and RFP SPF for these parameters once annually for each residual.

8. The applicant shall submit a draft Sludge Utilization Agreement, for review and approval by Department staff, prior to resuming distribution of sludge or SPF for utilization without site-specific permitting. The utilization agreement shall ensure that the operating standards in Chapter 419, section 4.E will be met at utilization sites, and ensure that storage sites will meet the general siting, design, and operational standards in Chapter

419, sections 10.A, 10.B, 12.A and 12.B. The agreement must describe the responsibilities and liabilities of GNP and site operators, and provide Title, Right and Interest for use of GNP sludge on utilization sites. Further, the agreement must specify the BMPs to be followed by the site operator, provide a list of setbacks to be observed when spreading and storing sludge, and include a notification to landowners that an additional application of nitrogen fertilizer, at a rate which provides sufficient nitrogen for the crop being grown, should accompany or follow agricultural applications of GNP sludge.

9. The applicant's representative shall sign and execute a Sludge Utilization Agreement, along with the landowner receiving sludge and the site operator, for each site proposed for sludge utilization. The applicant shall retain copies of signed Sludge Utilization Agreements for a period of 5 (five) years.

10. The applicant shall deliver sludge to areas within a 100-year floodplain only after the groundwater is at least 24 inches below the surface. The applicant shall ensure that sludge delivered to floodplain sites is incorporated and the resulting sludge-amended soils are graded, seeded, and mulched within 30 days of delivery. The applicant shall ensure that sludge amended areas in floodplains have an established cover crop by September 15th of the year of delivery. The applicant shall ensure that in the floodplain, residuals are only be stored for less than 30 days, only when the groundwater is at least 24 inches to the surface, and only prior to September 15th of each year.

11. The applicant shall submit an annual report of utilization activities that meets the standards in Chapter 419, section 6C to the Department's Bureau of Remediation and Waste Management by February 28th of each following year. The annual report shall include the total volumes of Millinocket mill sludge and RFP SPF that are distributed to individual compost facilities.

GREAT NORTHERN PAPER, INC.	16	SOLID WASTE ORDER
MILLINOCKET AND EAST MILLINOCKET)		
PENOBSCOT COUNTY, MAINE)		
SLUDGE UTILIZATION, PROGRAM APPROVAL)		
#S-021545-SB-D-A (APPROVAL WITH CONDITIONS))		LICENSE AMENDMENT

12. All other Findings of Fact, Conclusions and Conditions remain as approved in program license #S-021545-SB-A-N, as amended.

DONE AND DATED AT AUGUSTA, MAINE THIS 30th DAY

OF May, 2001.

DEPARTMENT OF ENVIRONMENTAL PROTECTION

BY: David Lennett
Martha G. Kirkpatrick, Commissioner

PLEASE NOTE ATTACHED SHEET FOR GUIDANCE ON APPEAL PROCEDURES.

Date of initial receipt of application: July 13, 2000

Date of application acceptance: August 3, 2000

Date filed with Board of Environmental Protection:

FILED
JUN - 5 2001
BOARD OF ENVIRONMENTAL PROT.
STATE OF MAINE

This Order was prepared by Rick Haffner of the Bureau of Remediation and Waste Management.

XRH34559/rh/smi

Appendix A

STANDARD CONDITIONS TO ALL SOLID WASTE FACILITY LICENSES

STRICT CONFORMANCE WITH THE STANDARD AND SPECIAL CONDITONS OF THIS APPROVAL IS NECESSARY FOR THE PROJECT TO MEET THE STATUTORY CRITERIA FOR APPROVAL. VIOLATIONS OF THE CONDITIONS UNDER WHICH A LICENSE IS ISSUED SHALL CONSTITUTE A VIOLATION OF THAT LICENSE, AGAINST WHICH ENFORCEMENT ACTION MAY BE TAKEN, INCLUDING REVOCATION.

1. Approval of Variations from Plans. The granting of this approval is dependent upon and limited to the proposals and plans contained in the application and supporting documents submitted and affirmed by the license. Any consequential variation from these plans, proposals, and supporting documents is subject to review and approval prior to implementation.

2. Compliance with All Applicable Laws. The licensee shall secure and comply with all applicable federal, state, and local licenses, permits, authorizations, conditions, agreements, and orders prior to or during construction and operation, as appropriate.

3. Compliance with All Terms and Conditions of Approval. The licensee shall submit all reports and information requested by the Department demonstrating that the licensee has complied or will comply with all terms and conditions of this approval. All preconstruction terms and conditions must be met before construction begins.

4. Transfer of License. The licensee may not transfer the solid waste facility license or any portion thereof without approval of the Department.

5. Initiation of Construction or Development Within Two Years. If the construction or operation of the solid waste facility is not begun within two years of issuance or within 2 years after any administrative and judicial appeals have been resolved, the license lapses and the licensee must reapply to the Department for a new license unless otherwise approved by the Department.

6. Approval Included in Contract Bids. A copy of the approval must be included in or attached to all contract bid specifications for the solid waste facility.

7. Approval Shown to Contractors. Contractors must be shown the license by the licensee before commencing work on the solid waste facility.

8. Background of key individuals. A licensee may not knowingly hire as an officer, director or key solid waste facility employee, or knowingly acquire an equity interest or debt interest in, any person convicted of a felony or found to have violated a State or federal environmental law or rule without first obtaining the approval of the Department.

9. Fees. The licensee must comply with annual license and annual reporting fee requirements of the Department's rules.

ADDITIONAL STANDARD CONDITIONS FOR SOLID WASTE DISPOSAL FACILITIES

10. **Recycling and Source Reduction Determination for Solid Waste Disposal Facilities.** This condition does not apply to the expansion of a commercial solid waste disposal facility that accepts only special waste for landfilling.

    The solid waste disposal facility shall only accept solid waste that is subject to recycling and source reduction programs, voluntary or otherwise, at least as effective an those imposed by 38 MRSA Chapter 13.

11. **Deed Requirements for Solid Waste Disposal Facilities.** Whenever any lot of land on which an active, inactive, or closed solid waste disposal facility is located is being transferred by deed, the following must be expressly stated in the deed:

    A. The type of facility located on the lot and the dates of its establishment and closure.

    B. A description of the location and the composition, extent, and depth of the waste deposited.

    C. The disposal location coordinates of asbestos wastes must be identified.